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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,378	03/26/2004	Peter M. Michalakos	H0003879-3138	3068

7590 12/12/2007

Honeywell International, Inc.
Law Dept. AB2
P.O. Box 2245
Morristown, NJ 07962-9806

EXAMINER	
MERKLING, MATTHEW J	

ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/811,378	MICHALAKOS ET AL.	
	Examiner	Art Unit	
	Matthew J. Merkling	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *20-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-5 and 10-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1, 10 and 17, applicant amended the claims to include the limitation "is free of transition metal which is susceptible to sulfate formation". However, this limitation includes subject matter that was not described in the originally filed disclosure. Applicant excludes transition metals from the catalytic composition which are susceptible to sulfate formation, and then claims the catalytic composition comprises palladium which is a transition metal and is susceptible to sulfate formation (see Horiuchi USP 5,000,929, col. 2 lines 3-11). On page 2, lines 13-15, page 3 lines 20-22, page 9 lines 19-22, and page 10 lines 14-18 of the instant specification, Applicant gives examples of transition metals that are to be excluded (Ni and Mn) but does not convey what constitutes a transition metal that is susceptible to sulfate formation as included in the instant claims.

For purposes of this examination, the examiner will interpret the limitation "is free of transition metal which is susceptible to sulfate formation" as "is free of Mn and Ni", as disclosed in the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5 and 10-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Where applicant acts as his or her own lexicographer to specifically define a phrase of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim phrase. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The phrase "free of transition metal which is susceptible to sulfate formation" in claims 1, 10 and 17 is used by the claim to mean, as best understood, "free of manganese and nickel", while the accepted meaning is "free of more than just manganese and nickel, but also palladium and other transition metals". The term is indefinite because the specification does not clearly redefine the phrase.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Wyatt (GB 2056424).

Regarding claims 1-4, Wyatt discloses an ozone removal system for an aircraft (page 1 lines 18-25), comprising:

a housing having an upstream end and a downstream end (inherently, by mention of a catalyst and a stream of air passing over (page 1 lines 18-33);

a substrate (metal support, page 1 line 33) disposed within said housing, said substrate and said housing adapted for the passage of an air stream therethrough (page 1 lines 18-33);

a titania catalyst support disposed on a surface of said substrate (refractory metal oxide, washcoat, such as titanium oxide coated on the metal support, page 1 lines 33-36);

a first duct affixed to said upstream end of said housing, said first duct coupled to an air intake unit for providing said air stream (inherently, by mention of a stream of air flowing from the compressor, to the housing and into the aircraft cabin (page 1 lines 18-33); and

a catalytic composition disposed on said titania catalyst support, wherein said catalytic composition is free of Mn and Ni:

at least one silver-based component selected from the group consisting of Ag (silver) metal and AgO (silver oxide) and at least one palladium-based component selected from the group consisting of PdO (palladium oxide), PdO2 (palladium dioxide), and Pd (palladium) metal, (the preferred catalytic material comprises Ag and Pd), page 1 line 28-32).

Regarding limitations recited in claims 1-3 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP §2114 and 2115. Further, process limitations do not have a patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim.

Furthermore, in claim 3 the claimed properties and performance of said catalyst composition in defined temperature ranges (deactivation properties, ozone reduction rates) are not disclosed by Wyatt, but are assumed to be the same as the claimed catalyst composition is identical to the catalyst composition taught by modified Terui (PdO and Ag on titania). Moreover, something which is old does not become patentable upon the discovery of a new property (see MPEP §2112).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terui et al. (US 5,187,137) in view of Sakakibara (JP 03-151046 A) and Mirowsky et al. (US 2003/0150222).

Regarding claims 6-9, Terui discloses an ozone removal system (see abstract) for an aircraft, comprising:

A catalyst that receives airflow (see abstract, and thus an upstream and downstream end);

a substrate within a housing (aircraft) with a titania catalyst support (col. 4 lines 16-19) disposed on a surface of said substrate (col. 4 lines 20-23);

a catalytic composition of palladium oxide (col. 3 lines 8-16) disposed on said titania catalyst support.

Furthermore, the claimed temperature of operation (100-500°F) is not considered to confer patentability to an apparatus claim as the manner of operating a device does not differentiate the apparatus from the prior art (See MPEP §2114).

Terui fails to teach a silver based component consisting of silver.

Sakakibara also discloses a catalyst for the decomposition of ozone (see title).

Sakakibara teaches the synergistic effects of using silver with palladium in the service of decomposing ozone (see abstract). Sakakibara teaches the characteristics of both palladium and silver are involved in the reduction of ozone and also that the catalyst is excellent in both the performance of an initial period and durability (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the silver of Sakakibara to the palladium oxide and titania catalyst of Terui in order to harness the synergistic effects of palladium and silver in the decomposition of ozone and the excellence in performance during an initial period as well as long term.

Regarding limitations recited in claims 6-9 which are directed to a manner of operating disclosed system, neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP §2114 and 2115. Further, process limitations do not have a patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that

states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim.

Response to Arguments

11. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Merkling whose telephone number is (571) 272-9813. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJM

ALEXA D. NECKEL
SUPERVISORY PATENT EXAMINER